[TITLE OF THE DOCUMENT] CLAIMS

[Claim 1]

An electric car control apparatus for driving an induction motor by means of electric power supplied by overhead wiring, characterized by comprising:

a DC power supply device having a maximum potential terminal, an intermediate potential terminal and a minimum potential terminal for converting said electric power so as to supply DC power, said DC power supply device further having an upstream side capacitor connected between said maximum potential terminal and said intermediate potential terminal, and a downstream side capacitor connected between said intermediate potential terminal and said minimum potential terminal;

an overvoltage suppression part having a resistor and a thyristor and being connected between said maximum potential terminal and said minimum potential terminal;

a downstream voltage sensor connected in series between said intermediate potential terminal and said minimum potential terminal;

an upstream voltage sensor connected between a junction of said resistor and said thyristor, and said intermediate potential terminal; and

a three level inverter connected to said maximum potential terminal, said intermediate potential terminal and said minimum potential terminal for supplying AC power to said induction motor;

wherein said three level inverter is controlled by using voltages detected by said downstream voltage sensor and said upstream voltage sensor.

[Claim 2]

An electric car control apparatus for driving an induction motor by means of electric power supplied by overhead wiring, characterized by

comprising:

a three level converter having a maximum potential terminal, an intermediate potential terminal and a minimum potential terminal for converting AC power supplied from said overhead wiring into DC power;

an upstream side capacitor connected between said maximum potential terminal and said intermediate potential terminal;

a downstream side capacitor connected between said intermediate potential terminal and said minimum potential terminal;

an overvoltage suppression part having a resistor and a thyristor and being connected between said maximum potential terminal and said minimum potential terminal;

a downstream voltage sensor connected in series between said intermediate potential terminal and said minimum potential terminal;

an upstream voltage sensor connected between a junction of said resistor and said thyristor, and said intermediate potential terminal; and

an inverter at least connected to said maximum potential terminal and said minimum potential terminal for supplying AC power to said induction motor;

wherein said three level converter is controlled by using voltages detected by said downstream voltage sensor and said upstream voltage sensor.